
Field Investigation of a Suspected Epidemic of Cholera



Deciding When to Conduct a Community Investigation

Conduct an investigation whenever a suspected epidemic is reported

Through formal surveillance system

Endemic area - *increase in cases over the baseline*

Non-endemic area - *a single case*

Through informal sources

travelers

newspapers, etc.

Conduct a Community Investigation

In Non-Endemic Areas

- In non-endemic areas, investigate whenever a single patient meets the case definition
- Illness is likely to be more widespread than the single reported case, since:
 - people with mild illness do not meet the case definition
 - some ill people may not attend health facilities

Suspected Case of Cholera

where cholera is not known to be present

**Any person aged 5 years or more,
who develops severe dehydration
or dies from acute watery diarrhea**

Conduct a Community Investigation

In Areas Where Cholera is Endemic-1

When there is an increase in the number of cases over the baseline

Conduct a Community Investigation

In Areas Where Cholera is Endemic

- **Must distinguish between a true increase and normal reporting fluctuations - look for:**
 - **sudden, large increase**
50% over endemic rate
 - **persistent increase**
more than one week
 - **localized reports**
cases reported from one location

When Informed of a Suspected Epidemic

- **Review reports of cases**
 - do they meet the case definition?
 - what is the attack rate?
- **Alert nearby health facilities**
 - have health workers seen cases?
 - remind health workers of clinical presentation and case definitions
- **Send an investigation team to the field**
- **Send specimens for laboratory confirmation**

Members of the Investigation Team

- **Epidemiologist and / or clinician**
- **Hygienist and / or health educator**
- **Driver, community representatives, interpreters, general helpers**

Investigation Team Duties

- **Verify reported cases**
- **Investigate new cases to establish diagnosis**
- **Obtain laboratory specimens**
- **Get and analyze information about cases**
 - **determine size and characteristics of outbreak**
 - **create investigation register which contains a line listing of ill persons, including identifying and risk factor information**

Investigation Team Duties

- **Identify high risk groups and possible sources of contamination**
- **Assess local ability to respond**
- **Implement simple, on-site control measures**
- **Provide emergency treatment supplies and training**
- **Make recommendations & report findings to decision makers**

Line Listing

- **Create a line-listing of ill persons**
 - get information from clinic register & community investigation

- **List**
 - identifying information (name, age, address, etc.)
 - details of illness & outcome
 - potential risk factors

Line Listing

Potential Risk Factors

- **For each ill person, record:**
 - **recent travel history**
 - **contact with persons with diarrhea**
 - **recent attendance at a funeral (note cause of death of deceased)**
 - **water sources for**
 - **drinking**
 - **bathing**
 - **cleaning kitchen utensils**
 - **food history (next slide)**
 - **occupation**

Line-Listing

Food History

- **Has the ill person eaten:**
 - raw fruits or vegetables?
 - fruit drinks?
 - room-temperature food from street vendors?
 - cooked foods containing grains (rice, millet, sorghum, maize, etc.), eaten at room temperature?
 - undercooked fish or shellfish?

Line-Listing

Interpret the line-listing

- **Review each category on listing to identify characteristics that many cases share**
 - **(e.g., using a certain source of water)**
- **Characteristics that are more common among cases, than among persons who are well, may identify high risk groups or sources of infection**
- **N.B. - A characteristic that is common**
 - a. **may be associated with risk of illness OR**
 - b. **may simply be common in the community**

Analyze Data from Investigation

- **Person**
- **Place**
- **Time**
- **Analyze the data while still in the field, so that control measures can be directed toward any high risk groups or sources of infection**

Analyze Data from Investigation - Person-

- **How many cases and deaths?**
- **What is the attack rate?**
- **What is the case fatality rate?**
- **Are there groups at high risk of becoming ill?**
- **Analyze line listing for significant risk factors**

Analyze Data from Investigation - Place-

- Where are cases occurring?
- Is the outbreak spreading?
 - Are there accessible health facilities in the affected areas?
- Show location of cases on maps
- Indicate attack rates in different areas
 - helps follow progress of disease
 - helps plan control measures

Analyze Data from Investigation -Time -

- When did cases and deaths occur?**
- Is the number of cases increasing or decreasing?**
- Make graphs showing the number of cases over time (by date on onset)**

Assess Local Ability to Respond

- **Case Management**

- **Are cases being managed properly?**
- **Are there enough supplies?**
- **Is there enough staff?**
- **Are Temporary Treatment Centers needed?**

Assess Local Ability to Respond

■ Community Control Measures

- Is enough safe water available?
- Is food prepared and handled properly?
- Are excreta disposed of safely?
- Is health education reaching everyone?
- Have ineffective control measures been avoided?